

REMARKS

Claims 1-21 have been examined and stand rejected. Claims 2 and 3 are canceled by this Amendment without prejudice or disclaimer. Thus, claims 1 and 4-21 are pending in the application.

Claim Rejections - 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 2-4, 6, 7, 9-12 and 18-21 under § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response Applicants have canceled claims 2 and 3 and amended claims 6, 7, 18, 19, 20 and 21 to obviate these rejections.

Claim Rejections - 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 1-4, 6-10, 14-16 and 21 under §103(a) as being unpatentable over Moore (US 6,064,003) in view of Knapp (4,521,064).

The Examiner alleges Moore fails to teach or suggest the impedance of the foam element being closer to the impedance of the covering, but alleges that Knapp teaches this feature.

Regarding independent claims 1, 8, 14 and 15, the Examiner alleges that Moore discloses most of the features of each of independent claims 1, 8, 14 and 15, but concedes that Moore fails to disclose “the foam resin having a foam ratio that is selected so than an impedance of the connection portions substantially match the impedance of the covering of the conductor” (claims or “the foam ratio of the foam element being greater than 0% and 80% or less.” *See Office Action*, p. 5.

To compensate for the deficiency of Moore, the Examiner alleges that Knapp discloses an electrical connector comprising a foam element which has a foam ratio of 35%-55%.

Furthermore, the Examiner alleges that it would have been obvious to one skilled in the art to provide the foam element of Moore to have an impedance being closer to the impedance of the conductor. In other words, the Examiner alleges that one of skill would provide the foam element of Moore with a foam ratio of 35%-55% as taught by Knapp to meet the specific use of the resulting device since a lower ratio would reduce the moisture-proof qualities and a higher ratio would reduce the compressibility of the material. Finally, the Examiner states that the modified assembly of Moore also discloses the foam element including a resin, wherein the impedance of the foam element being closer to impedance of the covering.

In response, Applicants submit that the Examiner is using classic hindsight reconstruction where the claimed invention is trivialized because the Examiner can find some of the individual elements of existing in a number of prior art references.

For example, the proposed motivating factor - “to have an impedance being closer to the impedance of the covering of the conductor” - is found nowhere in any of the prior art references cited by the Examiner. Moreover, this is a specific teaching from Applicants’ own disclosure. In support of Applicants’ position, it is noted that the Federal Circuit is unwavering in its condemnation of hindsight logic. In *Grain Processing Corp. v. American Maize Products Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988), the Federal Circuit stated:

Care must be taken to avoid hindsight reconstruction using the patent in suit as a guide through the maze of prior art references combining the right references in the right way so as to achieve the result of the claims in suit.

(*Id.*)

In this regard, neither Moore nor Knapp disclose matching any impedance values. Neither reference mentions the term “impedance” within its disclosure or contemplates optimizing the foam ratio to match the impedances. According, the Examiner has failed to make a *prima facie* case of obviousness for at least this reason.

Each of independent claims 1, 8, 14 and 15 recite a similar feature. In claim 1 this feature is recited as “the impedance control means is a foam resin controlling an impedance in terms of a foam ratio that is selected so that an impedance of the connection portions substantially match the impedance of the covering of the conductor.”

Moore merely teaches a closed cell foam covering (72) as a water-tight seal member. That is, Moore fails to disclose or fairly suggest an impedance element in order to compensate for a discontinuity of the impedance distribution along a cable at an exposed conductor portion inside a connector structure. Furthermore, the closed cell foam covering (72) of Moore is *not* fixed on but separately disposed from terminals (70) and conductors (63) by an airspace that has a low permittivity (See Figs. 6 and 7). Thus, the closed cell foam covering of Moore et al. is unlikely to contribute to an impedance matching of the connector.

In a similar fashion, Knapp teaches that a seal member (50) made of foam material disposed at a periphery of end sections (44, 45). Accordingly, it should be noted that the seal member is *not* fixed on but separated from contacts (11, 21), and therefore, a permittivity of the seal member (50) is unlikely to contribute to an impedance matching of a connector.

Consequently, even if combined as suggested, neither Moore nor Knapp, either alone or in combination, disclose or fairly suggest, “an impedance control means fixed on the connection portions of the conductor and the terminal; and a second covering that covers a part of the covering, the impedance control means and a part of the connector housing, wherein the

impedance control means is a foam resin controlling an impedance in terms of a foam ratio that is selected so that an impedance of the connection portions substantially match the impedance of the covering of the conductor,” as recited in claim 1.

Thus, Applicants submit claim 1 is allowable for at least this reason. Additionally, because claims 8, 14 and 15 recite similar features, Applicants these claims are allowable for the same reasons set forth above with regard to claim 1. Lastly, claims 4, 6-7, 9-10, 16 and 21 are allowable, at least by virtue of their dependency.

Claim Rejections - 35 U.S.C. § 103(a)

The Examiner rejected claim 5 under § 103(a) as being unpatentable over Moore in view of Knapp in further view of Hutchison (US 4,070,084). T

The Examiner concedes that Moore fails to teach or suggest the connector housing made of a foamed resin, but alleges that Hutchison teaches this feature.

Applicants traverse this rejection because the Moore/Knapp/Hutchison combination does not compensate for the above noted deficiency with regard to the Moore/Knapp combination. Thus, Applicants respectfully submit that neither Moore, Knapp, nor Hutchison, nor their combined teachings, taken as a whole for what they would have meant to the person of ordinary skill, teach or suggest “a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor.” The person of ordinary skill would not have (and could not have) been led by the Moore/Knapp/Hutchison combination to the subject matter of independent claim 1, much less to dependent claim 5. Additional, untaught modifications would still have been required. Applicants therefore respectfully request that the Examiner to withdraw this rejection of claim 5.

Claim Rejection - 35 U.S.C. § 103(a) - Claim 11

The Examiner rejected claim 11 as being unpatentable over Moore in view of Knapp in further view of Urushibata et al. (US 5,057,650; “Urushibata”). Applicants traverse this rejection because the Moore/Knapp/Urushibata combination does not compensate for the above noted deficiency with regard to the Moore/Knapp combination.

Thus, Applicants respectfully submit that neither Moore, Knapp, nor Urushibata, nor their combined teachings, taken as a whole for what they would have meant to the person of ordinary skill, teach or suggest “a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor.” The person of ordinary skill would not have (and could not have) been led by the Moore/Knapp/ Urushibata combination to the subject matter of independent claim 1, much less to dependent claim 11. Additional, untaught modifications would still have been required. Applicants therefore respectfully request that the Examiner to withdraw this rejection of claim 11.

Claim Rejection - 35 U.S.C. § 103(a) -Claim 12

The Examiner rejected claim 12 as being unpatentable over Moore in view of Knapp in further view of Bates (US 4,864,081). Applicants traverse this rejection because the Moore/Knapp/Bates combination does not compensate for the above noted deficiency with regard to the Moore/Knapp combination.

Thus, Applicants respectfully submit that neither Moore, Knapp, nor Bates, nor their combined teachings, taken as a whole for what they would have meant to the person of ordinary skill, teach or suggest “a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor.” The person of ordinary skill would not have (and could not have) been led by the Moore/Knapp/ Bates combination to the subject matter

of independent claim 1, much less to dependent claim 12. Additional, untaught modifications would still have been required. Applicants therefore respectfully request that the Examiner to withdraw this rejection of claim 12.

Claim Rejections - 35 U.S.C. § 103(a) - Claims 13 and 17

The Examiner rejected claim 13 and 17 as being unpatentable over Beamenderfer et al (4,834,674; "Beamenderfer") in view of Knapp.

Applicants traverse this rejection for the same reasons set forth in detail with regard to the rejection of claim 1 under Moore in view of Knapp. In particular, Beamenderfer fails to compensate for the above noted deficiencies with regard to the failure to make a *prima facie* case of obviousness, and similarly, this combination fails to teach "a foam ratio selected to substantially match the impedance of the connection portions with the covering of the conductor," as recited in claims 13 and 17.

As discussed above, Knapp fails to teach or suggest this feature. Furthermore, Beamenderfer is silent with regard to any foam element. Thus, Applicants respectfully submit that claims 13 and 17 are allowable over the applied combination.

Claim Rejections - 35 U.S.C. § 103(a) - Claims 18 and 20

The Examiner rejected claims 18 and 20 under § 103(a) as being unpatentable over Ichikawa et al. (5,780,774; "Ichikawa") in view of Moore and Knapp. Applicants respectfully traverse this rejection as follows.

In the rejection, the Examiner concedes that Ichikawa fails to disclose the pair of resin members being made of a foam resin and molding a resin around the foam resin members. To compensate for this deficiency, the Examiner applies Moore alleging that it discloses an electrical connector comprising foam resin member 72 covering connection portions of the

terminal and a conductor and resin 74 around the foam member 72. Then, the Examiner alleges that it would have been obvious to one skilled in the art to use foam resin as taught by Moore et al. for the resin members of Ichikawa to provide a water tight seal over the connection portions. As discussed above, Knapp fails to teach or suggest this feature. Furthermore, Ichikawa is silent with regard to any foam element. Thus, Applicants respectfully submit that claims 18 and 20 are allowable over the applied combination for at least this reason.

Claim Rejection - 35 U.S.C. § 103(a) - Claim 19

The Examiner rejected claim 19 as being unpatentable over Ichikawa in view of Bates and Knapp. Applicants respectfully traverse this rejection for reasons identical to those set forth with regard to claim 1. Knapp in combination with Bates and Ichikawa is still deficient in that there is simply no motivation to match any impedance values. Furthermore, Bates and Ichikawa are silent on any impedance values and, further, provide no support for matching any impedance values.

Thus, Applicants submit that independent claim 19 is allowable over the applied combination for at least this reason.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/David P. Emery/

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER

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David P. Emery
Registration No. 55,154